

Application Number 10/541484
Response to the Office Action dated 04/08/2008

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Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A method for manufacturing electrically conductive macromolecules by ~~reacting at least a monomer and an oxidizing agent a chemical polymerization method to obtain electrically conductive macromolecules by a chemical polymerization method~~, the method comprising:
a polymerization process of reacting the a monomer and the an oxidizing agent;
and
a chemical oxidation polymerization process performed in a polymerizing vessel that contains at least a supersaturated steam atmosphere, after the polymerization process.
2. (Currently Amended) The method for manufacturing electrically conductive macromolecules according to claim 1,
wherein the steam concentration of the supersaturated steam atmosphere is at least 5 vol% polymerization process is performed at 60°C or lower.
3. (Currently Amended) The method for manufacturing electrically conductive macromolecules according to claim 1,
wherein the temperature of the supersaturated steam atmosphere is at least 85 105°C.
4. (Currently Amended) The method for manufacturing electrically conductive macromolecules according to claim 1,
wherein preliminary polymerization is performed in advance at a temperature of less than 85°C, before reacting the monomer and the oxidizing agent in the supersaturated steam atmosphere in the polymerizing vessel, steam concentration in the steam atmosphere is at least 10 vol%.

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5. (Currently Amended) The method for manufacturing electrically conductive macromolecules according to claim 1,
wherein ~~the concentration of oxygen in the supersaturated steam atmosphere is~~
less lower than 21 vol%.
6. (Original) The method for manufacturing electrically conductive macromolecules according to claim 1,
wherein the monomer is at least one selected from pyrrole, thiophene, 3,4-ethylenedioxythiophene, aniline and derivatives of these.
7. (Original) The method for manufacturing electrically conductive macromolecules according to claim 1,
wherein the oxidizing agent is at least one selected from manganese oxide, iron (III) salts, copper (II) salts, hydrogen peroxide and persulfate salts.
8. (Original) The method for manufacturing electrically conductive macromolecules according to claim 1,
wherein the monomer and the oxidizing agent are at least dissolved in a water soluble solvent or water.
9. (Original) The method for manufacturing electrically conductive macromolecules according to claim 1,
wherein when observing a layer of the electrically conductive macromolecules from the side, a ratio d/L of a separation distance d of the electrically conductive macromolecular layer from a substrate, to a length L , is 0.02 or less.
10. (Cancelled)
11. (Cancelled)

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12. (New) A solid state electrolytic capacitor comprising:
an anodic conductor made from valve metal;
a dielectric layer formed on a surface of the anodic conductor; and
a solid state electrolyte that is formed on a surface of the dielectric layer and that includes an electrically conductive macromolecular layer;
wherein the electrically conductive macromolecular layer is formed by a chemical polymerization method, the method comprising:
a polymerization process of reacting a monomer and an oxidizing agent; and
a chemical oxidation polymerization process performed in a polymerizing vessel that contains a steam atmosphere, after the polymerization process.

13. (New) The solid state electrolytic capacitor according to claim 12,
wherein the anodic conductor provides a porous body containing numerous fine pores.